SEQUENCE LISTING

<110> Lydiate, Derek
Hannoufa, Abdelali
Bate, Nicholas
Hegedus, Dwayne

<120> Repressor Mediated Selection Strategies

<130> 11089.0003.NPUS01

<140> 10/678,490
<141> 2003-10-03

<150> 60/416,369
<151> 2002-10-03

<160> 61

<170> PatentIn version 3.1

<210> 1
<211> 472
<212> DNA
<213> artificial

<220>
<223> Synthetic Ros optimized for plant expression

<400> 1

gcggatcccc gggtatgact gagactgctt acggtaacgc tcaggatctt cttgttgagc 60

ttactgctga tatcgttgct gcttacgttt ctaaccacgt tgttcctgtt actgagcttc 120

ctggacttat ctctgatgtt catactgcac tttctggaac atctgctcct gcttctgttg 180

ctgttaacgt tgagaagcag aagcctgctg tttctgttcg taagtctgtt caggatgatc 240

atatcgtttg tttggagtgt ggtggttctt tcaagtctct caagcgtcac cttactactc 300

atcactctat gactccagag gagtatagag agaagtggga tcttcctgtt gattacccta 360

tggttgctcc tgcttacgct gaggctcgtt ctcgtctcgc taaggagatg ggtctcggtc 420

agcgtcgtaa ggctaaccgt ccaaaaaaga agcgtaaggt ctgagagctc gc 472

<210> 2
<211> 678
<212> DNA
<213> artificial

<220>

<223> Synthetic Tet optimized for plant expression

<400> 2

ggtaccgaga aaatgtctag attagataaa agtaaagtga ttaacagcgc attagagctg 60

cttaatgagg tcggaatcga gggcttaacg acccgtaaac tcgcgcagaa gctaggagta 120

gagcagccta cgttgtactg gcatgttaag aacaagcggg ctttgctcga cgccctcgcg 180

attgagatgt tagacaggca ccatactcac ttctgccctc tcgaagggga gagctggcaa 240

gatttcctcc gtaacaacgc taagtccttc agatgtgctc tcctatccca tcgcgacgga 300

gcaaaagttc atctgggtac acggcctaca gagaaacagt atgagactct cgaaaatcaa 360

ctggcctttc tgtgccaaca gggtttctca ctagagaatg cgctttacgc actctcagct 420

gtggggcatt ttactcttgg ttgcgttttg gaggatcaag agcatcaagt cgctaaggaa 480

gagagggaaa cacctactac tgatagtatg ccgccacttc ttcgacaagc catcgaactt 540

tttgatcacc agggtgcaga gccagccttc ttgttcggcc ttgaattgat catatgcgga 600

ttggaaaagc agcttaaatg tgaatcgggg tctcttaagc caaaaaagaa gcgtaaggtc 660

tgacttaagt gaatcgat 678

<210> 3
<211> 149
<212> PRT
<213> Artificial

<220>
<223> Synthetic Ros

<400> 3

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys Pro
50 55 60

```
Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65                  70                  75                  80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu Thr Thr His
                85                  90                  95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
            100                 105                 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu Ala Arg Ser Arg Leu
        115                 120                 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg Pro Lys
    130                 135                 140

Lys Lys Arg Lys Val
145
```

<210> 4
<211> 216
<212> PRT
<213> Artificial

<220>
<223> Synthetic Tet

<400> 4

```
Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1               5                   10                  15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
            20                  25                  30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
        35                  40                  45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
    50                  55                  60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65                  70                  75                  80
```

```
Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85                  90                  95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
            100                 105                 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
        115                 120                 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
    130                 135                 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145                 150                 155                 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165                 170                 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
            180                 185                 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser Leu
        195                 200                 205

Lys Pro Lys Lys Lys Arg Lys Val
    210                 215
```

<210> 5
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter sense primer

<400> 5

aagcttatgt atgcaagagt cagc 24

<210> 6
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter anti-sense primer

<400> 6

ttgactagta tcagcctcag ccat 24

<210> 7
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Ros sense primer

<400> 7

gcggatccga tgacggaaac tgcatac 27

<210> 8
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Ros anti-sense primer

<400> 8
gcaagcttca acggttcgcc ttgcg 25

<210> 9
<211> 36
<212> DNA
<213> Artificial

<220>
<223> iaaH sense primer

<400> 9

tgcggatgca taagcttgct gacattgcta gaaaag 36

<210> 10
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH anti-sense primer

<400> 10

cggggatcct ttcagggcca tttcag 26

<210> 11
<211> 43
<212> DNA
<213> Artificial

<220>
<223> Tet-FI primer

<400> 11

gatcactcta tcagtgatag agtgaactct atcagtgata gag 43

<210> 12
<211> 41
<212> DNA
<213> Artificial

<220>
<223> Tet-RI primer

<400> 12

cgctctatca ctgatagagt tcactctatc actgatagag t 41

<210> 13
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH ORF sense primer

<400> 13

gctctagaat ggtgcccatt acctcg 26

<210> 14
<211> 26
<212> DNA
<213> Artificial

<220>
<223> iaaH ORF anti-sense primer

<400> 14

gcgagctcaw atggcttytt cyaatg 26

<210> 15
<211> 59
<212> DNA
<213> Artificial

<220>
<223> Ros-OP1

<400> 15

gatcctatat ttcaatttta ttgtaatata gctatatttc aattttattg taatataat 59

<210> 16
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Ros-OP2

<400> 16

cgattatatt acaataaaat tgaaatatag ctatattaca ataaaattga aatatag 57

<210> 17
<211> 25
<212> DNA
<213> Agrobacterium tumefaciens

<400> 17

tatatttcaa ttttattgta atata 25

<210> 18
<211> 27
<212> DNA
<213> Agrobacterium tumefaciens

<400> 18

tataattaaa atattaactg tcgcatt 27

<210> 19
<211> 429
<212> DNA
<213> Agrobacterium tumefaciens

<400> 19

atgacggaaa ctgcatacgg taacgcccag gatctgctgg tcgaactgac ggcggatatt 60

gtggctgcct atgttagcaa ccacgtcgtt ccggtaactg agcttcccgg ccttatttcg 120

gatgttcata cggcactcag cggaacatcg gcaccggcat cggtggcggt caatgttgaa 180

aagcagaagc ctgctgtgtc ggttcgcaag tcggttcagg acgatcatat cgtctgtttg 240

gaatgtggtg gctcgttcaa gtcgctcaaa cgccacctga cgacgcatca cagcatgacg 300

ccggaagaat atcgcgaaaa atgggatctg ccggtcgatt atccgatggt tgctcccgcc 360

tatgccgaag cccgttcgcg gctcgccaag gaaatgggtc tcggtcagcg ccgcaaggcg 420

aaccgttga 429

<210> 20
<211> 624
<212> DNA
<213> escherichia coli

<400> 20

atgtctagat tagataaaag taaagtgatt aacagcgcat tagagctgct taatgaggtc 60

ggaatcgaag gcctaacaac ccgtaaactt gcgcagaagc tcggggtaga gcagcctaca 120

ttgtattggc atgtaaaaaa taagcgggcc ctgctcgacg cgttagccat tgagatgtta 180

gataggcacc atactcactt ttgcccttta gaaggggaaa gctggcaaga ttttttacgt 240

aataacgcta aaagttttag atgtgcttta ctaagtcatc gcgatggagc aaaagtacat 300

ttaggtacac ggcctacaga aaaacagtat gaaactctcg aaaatcaatt agccttttta 360

tgccaacaag gtttttcact agagaatgca ttatatgcac tcagcgctgt ggggcatttt 420

actttaggtt gcgtattgga agatcaagag catcaagtcg ctaaagaaga aagggaaaca 480

cctactactg atagtatgcc gccattatta cgacaagcta tcgaattatt tgatcaccaa 540

ggtgcagagc cagccttctt attcggcctt gaattgatca tatgcggatt agaaaaacaa 600

cttaaatgtg aaagtgggtc ttaa 624

<210> 21
<211> 142
<212> PRT
<213> Agrobacterium tumefaciens

<400> 21

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys Pro
50 55 60

Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65 70 75 80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu Thr Thr His
85 90 95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
100 105 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu Ala Arg Ser Arg Leu
115 120 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg
130 135 140

<210> 22
<211> 207
<212> PRT
<213> Escherichia coli

<400> 22

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1 5 10 15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
20 25 30

```
Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
        35                  40                  45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
    50                  55                  60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65                  70                  75                  80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85                  90                  95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
            100                 105                 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
        115                 120                 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
    130                 135                 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145                 150                 155                 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165                 170                 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
            180                 185                 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser
        195                 200                 205
```

<210> 23
<211> 10
<212> DNA
<213> Artificial

<220>
<223> Consensus Ros operator sequence

<400> 23

watdhwkmar 10

<210> 24
<211> 7
<212> PRT
<213> SV40

<400> 24

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 25
<211> 109
<212> DNA
<213> Artificial

<220>
<223> Ros-OPDS

<400> 25

atctccactg acgtaaggga tgacgcacaa tcccactatc cttcgcaaga cccttcctct 60

atataatata tttcaatttt attgtaatat aacacggggg actctagag 109

<210> 26
<211> 113
<212> DNA
<213> Artificial

<220>
<223> Ros-OPDA

<400> 26

gatcctctag agtcccccgt gttatattac aataaaattg aaatatatta tatagaggaa 60

gggtcttgcg aaggatagtg ggattgtgcg tcatcccttа cgtcagtgga gat 113

<210> 27
<211> 138
<212> DNA
<213> Artificial

<220>
<223> p74-315 sequence from EcoRV to ATG of GUS

<400> 27

gatatctcca ctgacgtaag ggatgacgca caatcccact atccttcgca agacccttcc 60

tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatccccg 120

ggtggtcagt cccttatg 138

<210> 28
<211> 107
<212> DNA
<213> Artificial

<220>
<223> Ros-OPUS

<400> 28

atctccactg acgtaaggga tgacgcacaa tctatatttc aattttattg taatatacta 60

tataaggaag ttcatttcat ttggagagaa cacgggggac tctagag 107

<210> 29
<211> 111
<212> DNA
<213> Artificial

<220>
<223> Ros-OPUA

<400> 29

gatcctctag agtcccccgt gttctctcca aatgaaatga acttccttat atagtatatt 60

acaataaaat tgaaatatag attgtgcgtc atcccttacg tcagtggaga t 111

<210> 30
<211> 136
<212> DNA
<213> Artificial

<220>
<223> p74-316 sequence from EcoRV to ATG of GUS

<400> 30

gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatata 60

ctatataagg aagttcattt catttggaga gaacacgggg gactctagag gatccccggg 120

tggtcagtcc cttatg 136

<210> 31

<211> 108
<212> DNA
<213> Artificial

<220>
<223> Ros-OPPS

<400> 31

atctccactg acgtaaggga tgacgcacaa tctatatttc aattttattg taatatacta 60

tataatatat ttcaatttta ttgtaatata acacggggga ctctagag 108

<210> 32
<211> 112
<212> DNA
<213> Artificial

<220>
<223> Ros-OPPA

<400> 32

gatcctctag agtcccccgt gttatattac aataaaattg aaatatatta tatagtatat 60

tacaataaaa ttgaaatata gattgtgcgt catcccttac gtcagtggag at 112

<210> 33
<211> 137
<212> DNA
<213> Artificial

<220>
<223> p74-309sequence from EcoRV to ATG of GUS

<400> 33

gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatata 60

ctatataata tatttcaatt ttattgtaat ataacacggg ggactctaga ggatccccgg 120

gtggtcagtc ccttatg 137

<210> 34
<211> 237
<212> DNA
<213> Artificial

<220>
<223> p74-118 sequence from EcoRV to ATG of GUS

<400> 34

gatatctcca ctgacgtaag ggatgacgca caatcccact atccttcgca agacccttcc 60

tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatcctat 120

atttcaattt tattgtaata tagctatatt tcaattttat tgtaatataa tcgatttcga 180

acccggggta ccgaattcct cgagtctaga ggatccccgg gtggtcagtc ccttatg 237

<210> 35
<211> 235
<212> DNA
<213> Artificial

<220>
<223> p 74-117 sequence from EcoRV to ATG of GUS

<400> 35

gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatata 60

ctatataagg aagttcattt catttggaga gaacacgggg gactctagag gatcctatat 120

ttcaatttta ttgtaatata gctatatttc aattttattg taatataatc gatttcgaac 180

ccggggtacc gaattcctcg agtctagagg atccccgggt ggtcagtccc ttatg 235

<210> 36
<211> 16
<212> PRT
<213> Arabidopsis

<400> 36

Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg
1 5 10 15

<210> 37
<211> 18
<212> PRT
<213> Tobacco

<400> 37

Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser Arg Ile Arg
1 5 10 15

Lys Lys

<210> 38
<211> 20
<212> PRT
<213> Tobacco

<400> 38

Lys Lys Arg Ala Arg Leu Val Asn Arg Glu Ser Ala Gln Leu Ser Arg
1 5 10 15

Gln Arg Lys Lys
20

<210> 39
<211> 18
<212> PRT
<213> Maize

<400> 39

Arg Lys Arg Lys Glu Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Tyr
1 5 10 15

Arg Lys

<210> 40
<211> 45
<212> PRT
<213> Potyvirus

<220>
<221> MISC_FEATURE
<222> (11)..(42)
<223> where Xaa is any amino acid

<400> 40

Lys Lys Asn Gln Lys His Lys Leu Lys Met Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Lys Arg Lys

35 40 45

<210> 41
<211> 17
<212> PRT
<213> Xenopus

<400> 41

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
1 5 10 15

Ile

<210> 42
<211> 17
<212> PRT
<213> Xenopus

<400> 42

Lys Arg Ile Ala Pro Asp Ser Ala Ser Lys Val Pro Arg Lys Lys Thr
1 5 10 15

Arg

<210> 43
<211> 17
<212> PRT
<213> Xenopus

<400> 43

Lys Arg Lys Thr Glu Glu Glu Ser Pro Leu Lys Asp Lys Asp Ala Lys
1 5 10 15

Lys

<210> 44
<211> 17
<212> PRT
<213> Rat

<400> 44

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 45
<211> 17
<212> PRT
<213> Human

<400> 45

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 46
<211> 17
<212> PRT
<213> Human

<400> 46

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 47
<211> 17
<212> PRT
<213> Chicken

<400> 47

Arg Lys Cys Cys Gln Ala Gly Met Val Leu Gly Gly Arg Lys Phe Lys
1 5 10 15

Lys

<210> 48
<211> 17
<212> PRT
<213> Human

<400> 48

Arg Lys Cys Tyr Glu Ala Gly Met Thr Leu Gly Ala Arg Lys Ile Lys
1 5 10 15

Lys

<210> 49
<211> 17
<212> PRT
<213> Chicken

<400> 49

Arg Arg Cys Phe Glu Val Arg Val Cys Ala Cys Pro Gly Arg Asp Arg
1 5 10 15

Lys

<210> 50
<211> 236
<212> DNA
<213> Artificial

<220>
<223> p74-114 sequence from EcoRV to ATG of GUS

<400> 50
gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaatttta ttgtaatata 60

ctatataata tatttcaatt ttattgtaat ataacacggg ggactctaga ggatcctata 120

tttcaatttt attgtaatat agctatattt caattttatt gtaatataat cgatttcgaa 180

cccggggtac cgaattcctc gagtctagag gatccccggg tggtcagtcc cttatg 236

<210> 51
<211> 33
<212> DNA
<213> Artificial

<220>
<223> synRos forward primer

<400> 51

gcggatccat gactgagact gcttacggta acg 33

<210> 52
<211> 29
<212> DNA
<213> Artificial

<220>
<223> synRos reverse primer

<400> 52

gcgagctcga ccttacgctt ctttttttgg 29

<210> 53
<211> 26
<212> DNA
<213> Artificial

<220>
<223> wtRos forward primer

<400> 53

cgggatccat gacggaaact gcatac 26

<210> 54
<211> 24
<212> DNA
<213> Artificial

<220>
<223> wtRos reverse primer

<400> 54

gcgagctcac ggttcgcctt gcgg 24

<210> 55
<211> 108
<212> DNA
<213> Artificial

<220>

<223> Ros oligonucleotide for Southwestern

<400> 55

atctccactg acgtaaggga tgacgcacaa tctatatttc aattttattg taatatacta 60

tataatatat ttcaatttta ttgtaatata acacggggga ctctagag 108

<210> 56
<211> 43
<212> DNA
<213> Artificial

<220>
<223> Tet oligonucleotide for Southwestern

<400> 56

gatcactcta tcagtgatag agtgaactct atcagtgata gag 43

<210> 57
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 57

tatatttcaa 10

<210> 58
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 58

tatattacaa 10

<210> 59
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 59

tataattaaa 10

<210> 60
<211> 10

<212> DNA
<213> Agrobacterium tumefaciens

<400> 60

aatgcgacag 10

<210> 61
<211> 10
<212> DNA
<213> Artificial

<220>
<223> Ros operator sequence (1)

<400> 61

tatahttcaa 10